The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An implantable medical catheter comprising:

a proximal end having an opening for fluid containing a therapeutic drug,

a distal end, the distal end defining at least one opening, and

a drug delivery segment, implantable for more than twenty-four hours, at the opening defined by the distal end,

the drug delivery segment having a longitudinal axis and a length of about 0.1-1.0 cm along its longitudinal axis, and having an outside surface and an inside surface, the outside surface being substantially annularly grooveless, the drug delivery segment defining tubes, each tube having a diameter and a length that extends radially from the inside surface to the outside surface, wherein a ratio of the length of the tubes extending between the inside surface and the outside surface to the diameter of the tubes is about 5-25, the drug delivery segment providing fluid containing a therapeutic drug to a target site at a rate of about 2 microliter/hour to 10 microliters/minute with substantially equal fluid flow through each of the tubes.

2. (Original) The medical catheter of claim 1 wherein the ratio of the length of the tubes to the diameter of the tubes is about 5.0.

3. (Original) The medical catheter of claim 1 wherein the length of the drug delivery segment is about 0.5 cm.

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4. (Original) The medical catheter of claim 1 wherein the tubes defined by the drug delivery segment are laser or ion beam drilled holes.

5. (Original) The medical catheter of claim 1, the drug delivery segment defining a lumen along its longitudinal axis, and wherein the outside surface has an outside diameter and the inside surface has an inside diameter, the tubes extending radially from the inside diameter to the outside diameter.

6. (Currently Amended) The medical catheter of claim 1 wherein the inside surface of the drug delivery segment has a diameter of about 0.03 inches, the outside surface of the drug delivery segment has a diameter of about 0.06 inches, and the tubes defined by the drug delivery segment have a length of about 0.02 inches.

7. (Previously Amended) The medical catheter of claim 1 wherein the number of the tubes defined by the drug delivery segment is about forty.

8. (Currently Amended) The medical catheter of claim 1 wherein the tubes defined by the drug delivery segment comprise at least one row parallel to the longitudinal axis of the drug delivery segment, the at least one row having a proximal tube, a middle tube and a distal tube.

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9. (Original) The medical catheter of claim 8 wherein the tubes defined by the drug delivery segment comprise four rows along the longitudinal axis of the drug delivery segment.

10. (Currently Amended) The medical catheter of claim 8 wherein the at least one row comprises ten tubes.

11. (Currently Amended) The medical catheter of claim 8, wherein the tubes are equally spaced from each adjacent tube in the at least one row.

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12. (Previously Amended) The medical catheter of claim 9 wherein each of the rows is about 90 degrees from each adjacent row along the outside surface of the drug delivery element.

13. (Previously Amended) The medical catheter of claim 1 wherein the number of the tubes defined by the drug delivery segment is about eighty.

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14. (Original) The medical catheter of claim 8 wherein the tubes defined by the drug delivery segment comprise eight rows along the longitudinal axis of the drug delivery segment.

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15. (Previously Amended) The medical catheter of claim 14 wherein each of the rows is about 45 degrees from each adjacent row along the outside surface of the drug delivery element.

16. (Currently Amended) The medical catheter of claim 8 wherein a distance from the proximal tube to the distal tube of the at least one row is about 5.5 millimeters, and a distance from the middle tube of the at least one row to the distal end of the lumen of the drug delivery segment is about 5.0 millimeters.

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17. (Original) The medical catheter of claim 1 wherein the tubes range in diameter size from about 0.001 to 0.005 inches.

18. (Original) The medical catheter of claim 1 wherein the tubes number about 20 to 100 tubes.

19. (Currently Amended) The medical catheter of claim 1 wherein the drug delivery [device] segment comprises a radiopaque material.

20. (Original) The medical catheter of claim 1 wherein the catheter comprises at least one portion comprising a radiopaque material from the group consisting of tantalum, tungsten, titanium, gold, platinum, iridium, silver, nickel and alloys thereof.

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21. (Previously Amended) The medical catheter of claim 20 wherein the portion comprising a radiaopaque material is a band or bead to identify a location of the drug delivery segment within a patient using X-ray, magnetic resonance imaging, or computerized axial tomography.

22. (Original) The medical catheter of claim 1 wherein the tubes are tapered as they extend from the outside surface of the drug delivery segment to the inside surface of the drug delivery segment.

23. (Original) The medical catheter of claim 1 wherein the tubes are non-tapered as they extend from the outside surface of the drug delivery segment to the inside surface of the drug delivery segment.

24. (Original) The medical catheter of claim 1 wherein the tubes have substantially the same diameter.

25. (Currently Amended) A method for delivering a therapeutic drug comprising:

forming a drug delivery segment having a longitudinal axis, the drug delivery segment having an outside surface and an inside surface,

forming tubes in the drug delivery segment, each tube having a diameter and a length that extends radially from the inside surface of the drug delivery segment to the outside surface of the

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drug delivery segment, the outside surface being substantially annularly grooveless, and where a ratio of the length of the tubes to the diameter of the tubes is about 5-25;

providing a therapeutic drug to the drug delivery segment for more than 24 hours; and

distributing the therapeutic drug in approximately equal amounts through the tubes defined in the drug delivery segment.

26. (Previously Amended) The method of claim 25 wherein the ratio of the length of the tubes to the diameter of the tubes is about 5.

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27. (Original) The method of claim 25, wherein the step of forming tubes in the drug delivery segment comprises laser or ion beam drilling to form the tubes.

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28. (Previously Amended) The method of claim 25 wherein the step of forming the tubes in the drug delivery segment results in forming tubes that taper as they extend from the outside surface of the drug delivery segment to the inside surface of the drug delivery segment.

29. (Previously Amended) The method of claim 25 wherein the step of forming the tubes in the drug delivery segment results in forming tubes that are non-tapered as they extend from the outside surface of the drug delivery segment to the inside surface of the drug delivery segment.

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30. (Currently Amended) An implantable medical system comprising:

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a therapeutic drug source, the therapeutic drug source in fluid communication with a catheter,

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the catheter having a proximal end having an opening for fluid containing a therapeutic drug from the therapeutic drug source, a distal end, the distal end defining at least one opening, and a drug delivery segment, implantable for more than twenty-four hours, at the opening defined by the distal end, the drug delivery segment having a longitudinal axis and a length of about 0.1-1.0 cm along its longitudinal axis, and having an outside surface and an inside surface, the outside surface being substantially annularly grooveless, the drug delivery segment defining tubes, each tube having a diameter and a length that extends radially from the inside surface to the outside surface, wherein a ratio of the length of the tubes extending between the inside surface and the outside surface to the diameter of the tubes is about 5-25, the drug delivery segment providing a therapeutic drug from the therapeutic drug source to a target site at a rate of about 2 microliter/hour to 10 microliters/minute with substantially equal fluid flow through each of the tubes.

31. (Previously Added) A method for delivering a therapeutic drug comprising:

forming a drug delivery segment having a longitudinal axis, the drug delivery segment having an outside surface and an inside surface,

forming tubes in the drug delivery segment, each tube having a diameter and a length that extends radially from the inside surface of the drug delivery segment to the outside surface of the

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drug delivery segment, and where a ratio of the length of the tubes to the diameter of the tubes is about 5-25;

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providing a therapeutic drug to the drug delivery segment for more than 24 hours from an intraparenchymal catheter; and

distributing the therapeutic drug in approximately equal amounts through the tubes defined in the drug delivery segment.

32. (Previously Added) A method for delivering a therapeutic drug comprising:

forming a drug delivery segment having a longitudinal axis, the drug delivery segment having an outside surface and an inside surface,

forming tubes in the drug delivery segment, each tube having a diameter and a length that extends radially from the inside surface of the drug delivery segment to the outside surface of the drug delivery segment, and where a ratio of the length of the tubes to the diameter of the tubes is about 5-25;

providing a therapeutic drug to the drug delivery segment for more than 24 hours; and

distributing the therapeutic drug in approximately equal amounts through the tubes defined in the drug delivery segment to the brain of a patient.

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